



# Gulf Harmony ZF Plus Super Clean

*Premium quality ashless super clean anti-wear hydraulic oil*

## Product Description

**Gulf Harmony ZF Plus Super Clean** series are premium quality ashless anti-wear hydraulic oils specially developed to meet the requirements of the most demanding modern hydraulic systems in industrial and mobile service requiring super clean oils. They are formulated with an advanced ashless anti-wear technology and severely hydroprocessed Group II base oils to provide reduced environmental impact in case of an accidental spillage. They are specially designed to satisfy the performance requirements of a wide range of hydraulic equipment subjected to high operating pressures & temperatures. They possess outstanding thermo-oxidative stability, anti-wear property, rust & corrosion protection, water separation & air-release properties and hydrolytic stability to prolong the equipment and oil life. They exceed the performance requirements of global industry standards viz. DIN 51524 Part 2-HLP, AFNOR NFE 48-603 (HM) & ISO 11158 HM and majority of the international OEMs viz. Denison, FIVES CINCINNATI (Former MAG IAS, LLC) & Eaton.

## Features & Benefits

- Outstanding thermo-oxidative stability reduces deposit formation, improves pump performance and gives extended oil and filter change intervals
- Exceptional anti-wear property results in fewer breakdowns, longer pump life and reduced maintenance costs
- Advanced ashless additive technology reduces environmental impact in case of accidental spillage or leakage
- Smoother operation of hydraulic systems with close clearance servo valves
- Excellent demulsibility helps in faster separation of water from oil and resists formation of emulsions
- Special rust & corrosion inhibitors protect multi-metallurgy components against negative effects of moisture presence in the system
- Rapid air release property minimises chances of pump cavitation and thus prevents component damage, reduces vibration and maintains efficiency especially in modern hydraulic systems where sump sizes are becoming smaller
- Offers long term hydrolytic stability and yellow metal compatibility in presence of water
- Compatible with multi-metals & most sealing materials used in hydraulic systems

## Applications

- Most demanding hydraulic systems subjected to high pressures and loads requiring super clean oils
- Hydraulic systems in environmentally sensitive applications
- Applications requiring extended oil change intervals
- Hydraulic systems in industrial and mobile service employing gear, vane and piston pumps where anti-wear hydraulic oils are recommended
- Mobile hydraulic fluid power transmission systems and general machine lubrication
- Older design hydraulic pumps containing silver or silver-plated parts

## Specifications, Approvals & Typical Properties

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Properties mentioned are typical only and minor variations, which do not affect product performance, are expected to arise in normal manufacturing processes. Please follow equipment manufacturer's recommendations for performance level and viscosity grade. The Safety Data Sheet for this product is available from your nearest Gulf Distributor. Please consult our local representative if any further information is required.

The information contained herein is believed to be correct at the time of publication and may be subject to modification from time to time. It is the user's responsibility to verify that this data sheet is current prior to using the product. No warranty expressed or implied is given concerning the accuracy of the information or the suitability of products. Gulf Oil International reserves the right to modify and change its products and specifications without prior notice.

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ISO Viscosity grades	10	15	22	32	46	68	100	
<b>Meets the following Specifications</b>								
DIN 51524 Part 2-HLP	X	X	X	X	X	X	X	
AFNOR NFE 48-603 (HM), ISO 11158 HM	X	X	X	X	X	X	X	
Denison HF-0, HF-1, HF-2				X	X	X		
FIVES CINCINNATI (Former MAG IAS, LLC)				P-68	P-70	P-69		
Eaton (Vickers) M-2950-S, I-286-S				X	X	X		
<b>Typical Properties</b>								
Test Parameters	ASTM Method	Typical Values						
Viscosity @ 40 °C, cSt	D 445	10.2	15.3	22.2	31	46.3	68.1	98.7
Viscosity Index	D 2270	109	109	108	105	104	100	99
Flash Point, °C	D 92	142	168	192	206	218	226	238
Pour Point, °C	D 97	-33	-27	-27	-24	-24	-24	-15
Density @ 15°C, Kg/l	D 1298	0.837	0.843	0.848	0.852	0.855	0.858	0.861
Rust Test	D 665A/B	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Emulsion Test 30 minutes max	D 1401	@ 54 oC	Pass	Pass	Pass	Pass	Pass	-
		@ 82 oC	-	-	-	-	-	Pass
Foam Test, foam after 10 minutes of settling for all sequences	D 892	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Turbine Oil Stability Test, hrs	D 943	5000+	5000+	5500+	6500+	6000+	5000+	
FZG, fail load stage, minimum	DIN 51354 Part II	-	-	-	11	11	11	11
Cleanliness level (at filling stage)	NAS 1638	6	6	6	6	6	6	

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